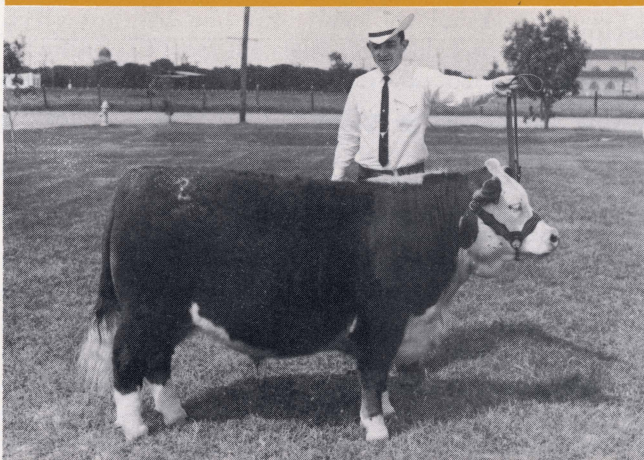
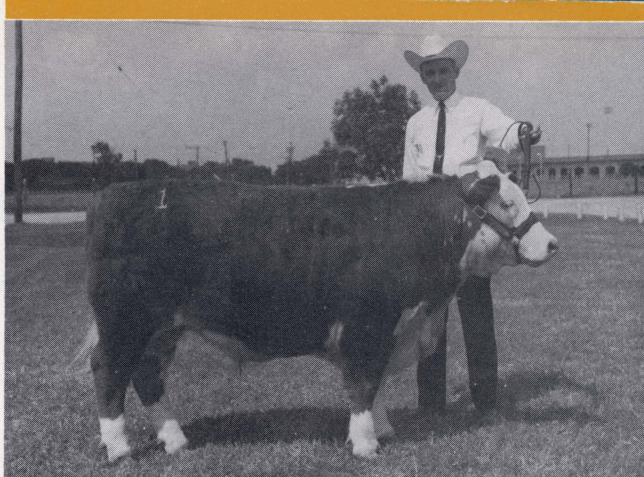


# *JUDGING* SLAUGHTER STEERS



TEXAS A&M UNIVERSITY • College Station, Texas  
TEXAS AGRICULTURAL EXTENSION SERVICE, J. E. Hutchison, Director



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## *Acknowledgements*

Grateful acknowledgment for preparation of this publication is given Dr. O. D. Butler, head, Department of Animal Husbandry, Harold Franke, assistant professor, Department of Animal Husbandry, and John L. Kuykendall, Billy H. Reagor and C. A. Smith, students, Department of Animal Husbandry, Texas A&M University.



# Judging Slaughter Steers

Uel D. Thompson and L.D. Wytbe, Jr.\*

**P**ERFECTING LIVE STEER JUDGING and relating it more closely to production efficiency and carcass value is a greater challenge than ever before in the history of the beef cattle industry. This has been caused by the present cost-price squeeze and beef consumers who want high-quality, lean beef.

Muscling, finish and dressing percentage are the major factors in determining live value of steers of desirable weights. In addition, factors considered in selecting breeding cattle such as growth rate, age, quality, correct set of legs and feet and desirable head shape may also be deciding factors in placing steers equal in muscling and desirable finish.

## Muscling

Muscling has to do with a steer's conformation, commonly referred to as form or shape. Desirable conformation must increase production efficiency and/or improve cutability. Some on-foot characteristics once considered important, do neither. There is no reasonable justification for an ideal beef animal with excessive depth, shortness of body or shortness of legs.

## Finish

Finish relates to the condition or fatness and is the major factor affecting carcass yield of retail cuts, meat quality and dressing percentage. The negative effect of fatness on yield of retail cuts is more than twice as great as the positive effect of muscling. External fat covering and tenderness are not highly correlated, but fat, especially marbling, does contribute to juiciness and flavor and makes lean more palatable. External fat covering affects an animal's conformation. Excess fat com-

monly is mistaken for muscling, since it affects an animal's width, depth and thickness. Do not confuse visual indications of finish and muscling in steer evaluation. *In judging, select steers correctly finished and line them up based on their muscling.* Place the less desirable overfinished and underfinished steers lower, on basis of muscling.

## Dressing Percentage or Yield

Dressing percentage is the ratio of chilled carcass weight to slaughter live weight. The amount of fill, though variable and subject to manipulation, degree of fatness and the weight of the dress-off items such as hide, head and shanks affect dressing percentage. A trim middle, light hide and fatness contribute greatly to a high dressing percentage. High dressing percentage caused by excessive finish is not beneficial.

## Value

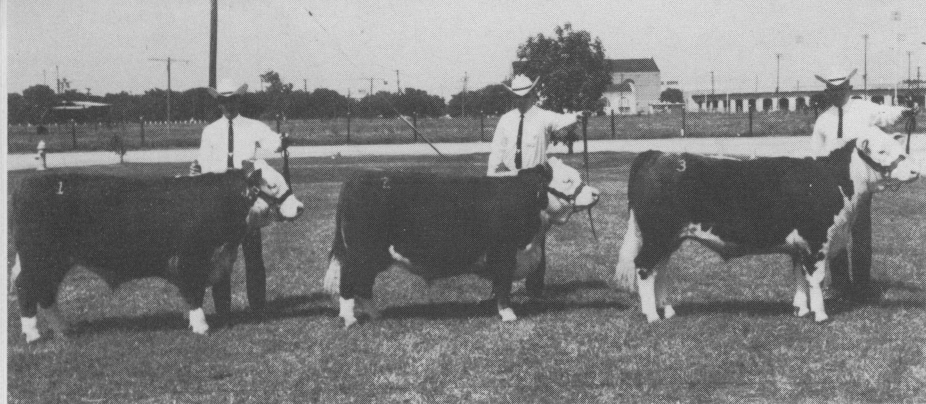
A correctly finished, muscular steer can yield a carcass worth \$50 more than an overfinished, averaged-muscled steer or an underfinished, poorly-muscled steer of the same weight and grade. The problem is to identify, select and produce muscular, efficient cattle yielding high-quality beef with little excess fat. Some of these now exist in all beef cattle breeds.

Three steers (designated 1, 2 and 3) weighing about 900 pounds were selected to demonstrate the points indicating differences in muscling and finish.

1. Desirable—muscular, correctly finished, high cutout, high-quality beef.
2. Less desirable—average muscling, overfinished, low cutout, high-quality beef.
3. Least desirable—poorly muscled, underfinished, above average cutout, lower quality beef.

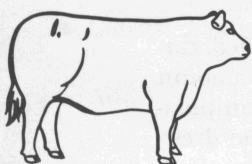
\*Respectively, Extension animal husbandman, and assistant professor, Department of Animal Husbandry, Texas A&M University.



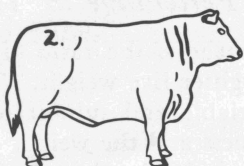


*Steer side views.*

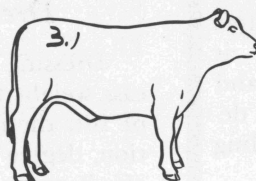
**1**  
**MUSCULAR**  
**CORRECTLY FINISHED**



**2**  
**AVERAGE MUSCLING**  
**OVERFINISHED**

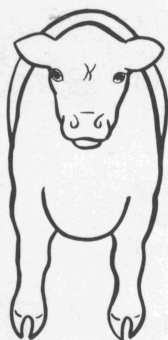


**3**  
**POORLY MUSCLED**  
**UNDERFINISHED**

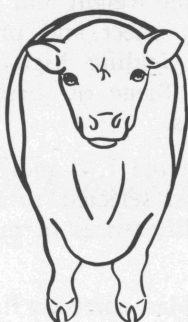


*Illustrated steer side views.*

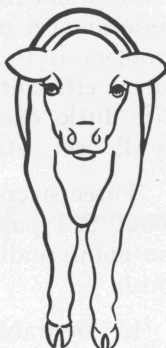
**1**  
**MUSCULAR**  
**CORRECTLY FINISHED**



**2**  
**AVERAGE MUSCLING**  
**OVERFINISHED**



**3**  
**POORLY MUSCLED**  
**UNDERFINISHED**



*Illustrated steer front views.*



#### **Steer No. 1-Desirable**

Muscular—correctly finished  
Moderate in length and depth of body and length of leg  
Balanced appearance  
Long full rump and round, long from hook to hock and from pin to stifle  
Muscular arm and forearm  
Trim brisket, rear flank and cod  
Trim middle

#### **Steer No. 2-Less desirable**

Average muscling—overfinished  
Excessive depth of body, too short legged and short bodied  
Unbalanced—heavy fronted  
Short rump and round  
Average muscling in shoulder  
Heavy, wasty brisket, rear flank and cod  
Heavy, wasty middle

#### **Steer No. 3-Least desirable**

Poorly muscled—underfinished  
Too long of leg and shallow of body  
Unbalanced—light hindquarter  
Short drooping rump, narrow stifle  
Lacks muscling in shoulder  
Lacks finish to grade choice  
Intermediate in trimness of middle

#### *Front View*

##### **Steer No. 1**

Muscular—correctly finished  
Wide between front legs  
Muscular yet not coarse or open in shoulder  
Heavy yet not coarse bone development (front cannons)  
Trim brisket, enough fullness to indicate adequate finish for quality meat and choice grade

##### **Steer No. 2**

Average muscling—overfinished  
Lacks the desired width between front legs  
Intermediate in width, muscling of shoulder  
Average bone development  
Excessively heavy, deep, full, pendulous brisket, yield excessive fat trim

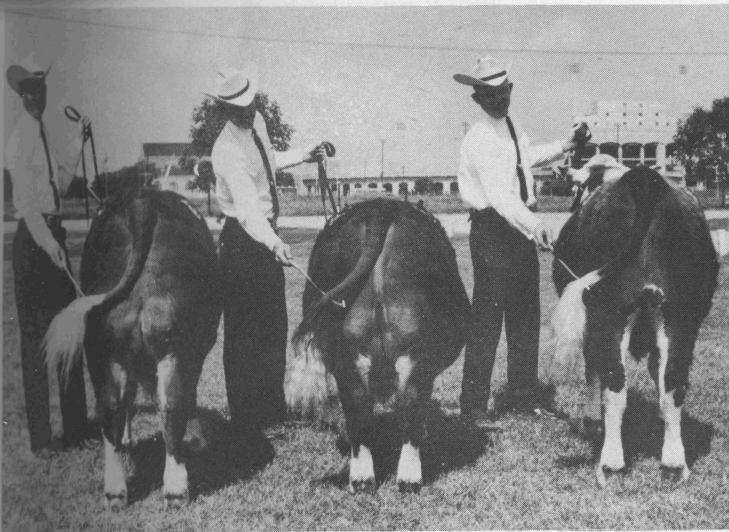
##### **Steer No. 3**

Poorly muscled—underfinished  
Very narrow between front legs  
Lacks muscular development of shoulder  
Long, light bone development  
Lacks evidence of enough fullness of brisket to grade above USDA Good

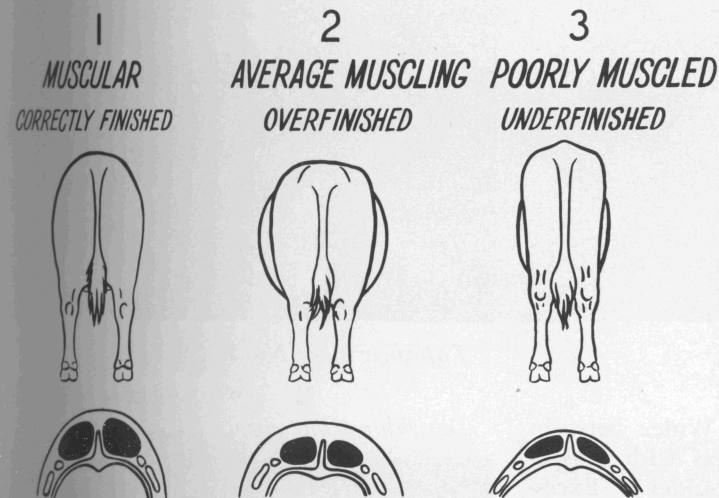
The front view of steer No. 1 is not ideal since he is rather plain headed, has slight excessive fullness and looseness of brisket and should stand wider and straighter on his front legs.

*Steer front views.*





Steer rear views.



Illustrated steer rear views.

## Rear View

### Steer No. 1

Muscular—correctly finished

Thick, plump round with maximum width half way between tailhead and twist  
Wide at pins and long from pins to twist  
Stands and walks wide on hind legs  
Uniformly, wide thick back, loin and rump with correct turn (⤿) over the top—quonset shaped

### Steer No. 2

Average muscling—overfinished

Wide at rump, but tapers in width from top to bottom of round  
Lacks length of round  
Lacks desired width between hind legs  
Wide but flat, square cornered (⤿) top indicating excessive fat over crops, along loin edges and over rump

### Steer No. 3

Poorly muscled—underfinished

Narrow, flat tapering round  
Narrow at pins, cut up in twist  
Narrow between hind legs  
Narrow triangular (⤿) shaped top, prominent tailhead and hooks

The illustrated rear view shows a cross section of beef carcasses between the twelfth and thirteenth ribs and illustrates the expected ribeye area and fat thickness from steers with these indications of muscling and finish. It also demonstrates the three factors determining width of a steer's back. They are (1) spring or size of rib cage (2) size of ribeye muscles and (3) amount of external fat covering. Influence of fatness on width is evident.

- Desirable length, depth of body and length of leg.
- Balanced appearance.
- Long, full rump and round, long from hook to hock and from pins to stifle, wide at stifle.
- Muscular arm and forearm.
- Trim, fore and rear flank.
- Trim middle.
- Strong muscular back and loin.



Side view steer No. 1.





*Rear view steer No. 1.*

- *Left* — Thick, plump, round with maximum width about halfway between tailhead and twist; wide at pins and long from pins to twist.
- Desirable width between hind legs.
- Uniformly wide, thick back and loin with correct turn over the top.
- *Right* — Note desirable width, fullness and thickness, and turn of back, loin and rump.



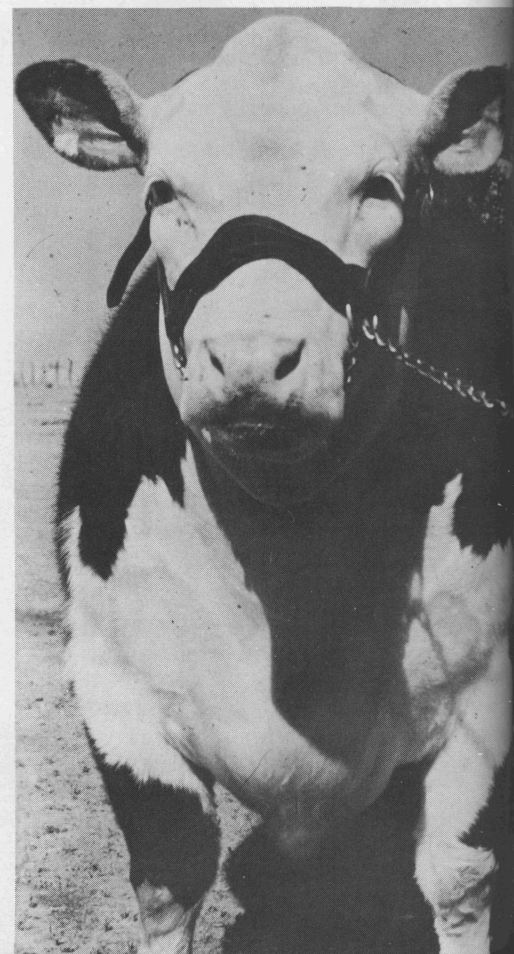
*Top view steer No. 1.*

*Front view steer No. 1.*



- *Left* — Wide between front legs with muscular shoulder. Excessively coarse and open shoulders not desired. The front view of Steer No. 1 is not ideal since he is plain headed, has a slightly excessive brisket and should stand wider and straighter on his front legs.
- Heavy but not coarse bone development. Important since bone circumference is related to muscle development. Heavy boned cattle tend to have more muscling than light boned cattle of same age and weight.
- *Right* — Desired width between front legs.
- Trim brisket.
- Muscular yet not coarse or open shoulder.
- Good bone development.

*Desirable front view.*





*Side view steer No. 2.*

- Excessive depth of body, too short legged and short bodied.
- Unbalanced, because heavy fronted.
- Short rump and round.
- Excessive heavy fat brisket, full fore and rear flank.
- Heavy, wasty middle.



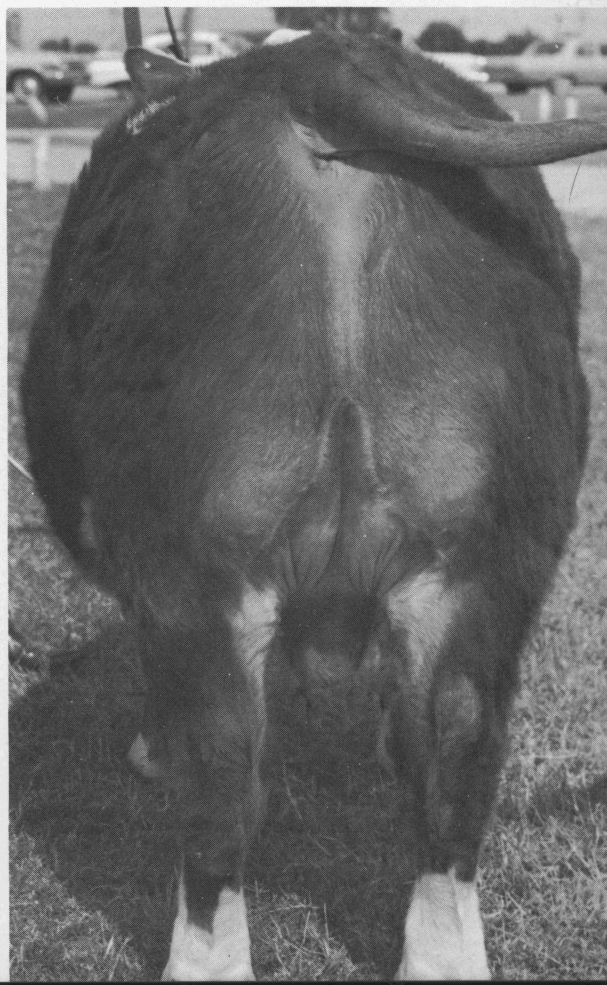
*Top view steer No. 2.*



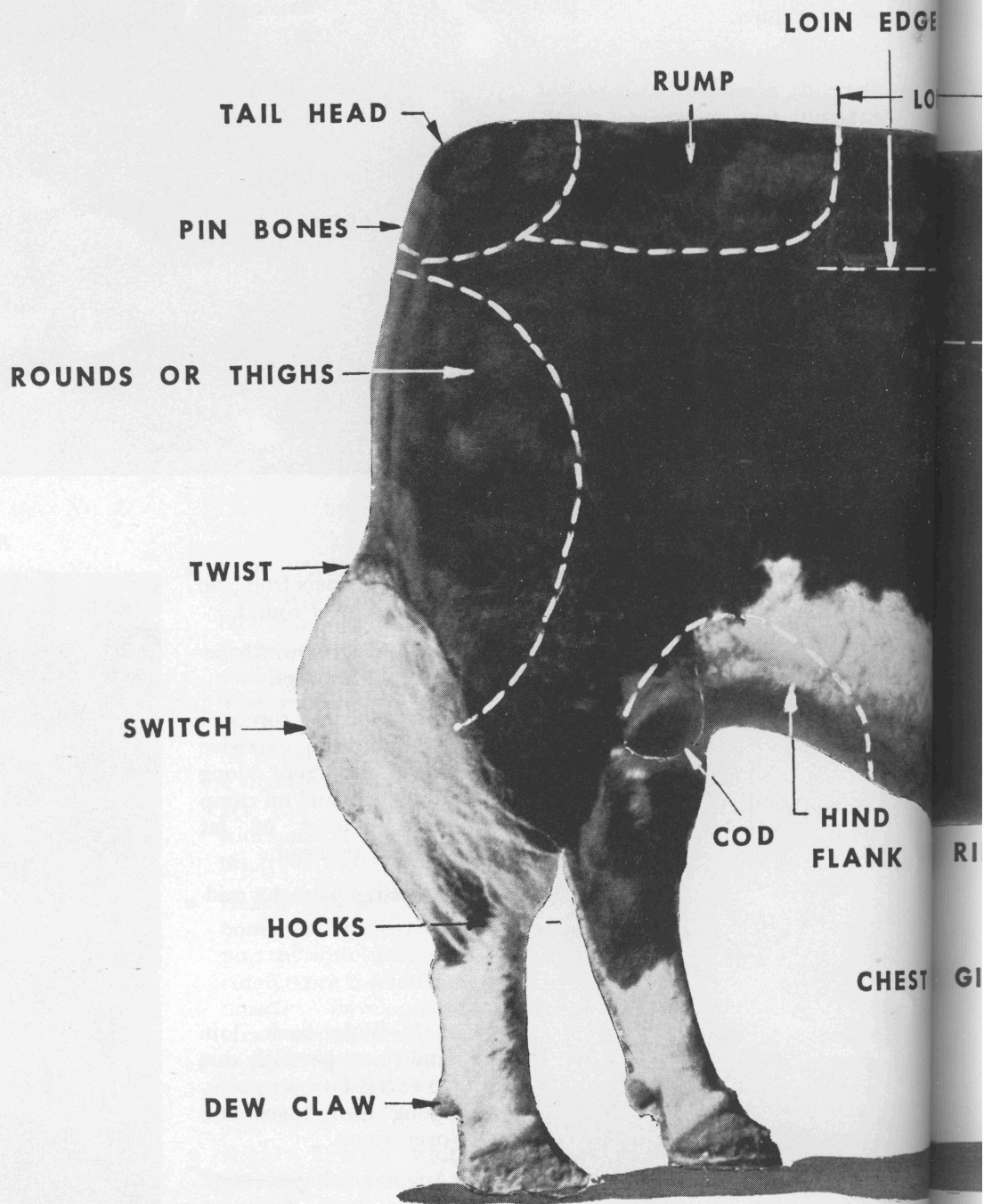
- *Right*—Tapers from top to bottom of round.
- Lacks desired width between hind legs.
- Flat, square cornered top indicating excessive finish over crops, along loin edges and on rump with patches of fat around tailhead.
- Excessive paunchy middle.

- *Left*—Wide back, loin and rump partially due to excess fat over crops, along loin edges and over rump.
- Angular shaped top; tapers from hooks to shoulder and tapers from hooks to pins.
- Excess fat along loin edges with patches of fat around tailhead.

*Rear view steer No. 2.*

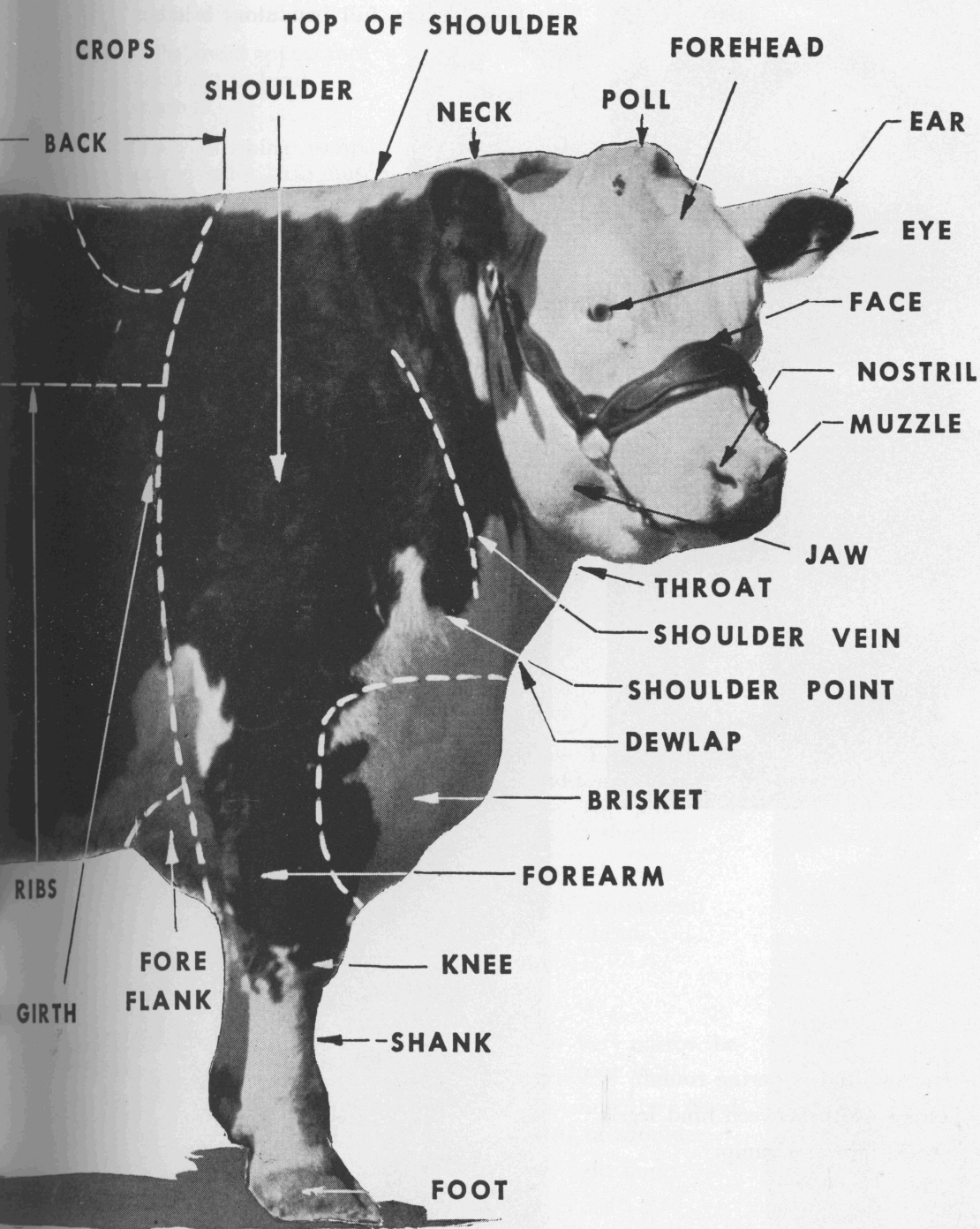


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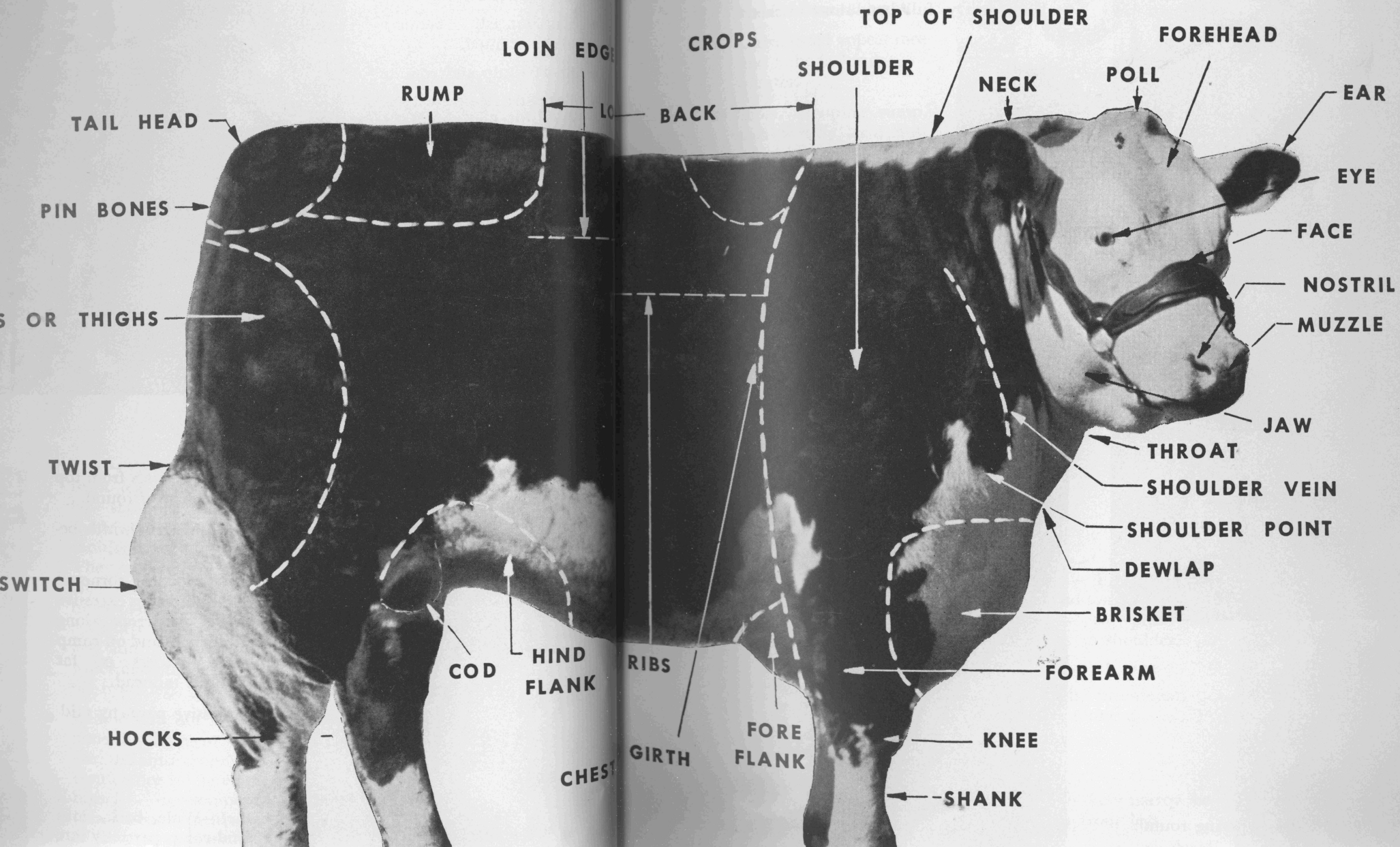




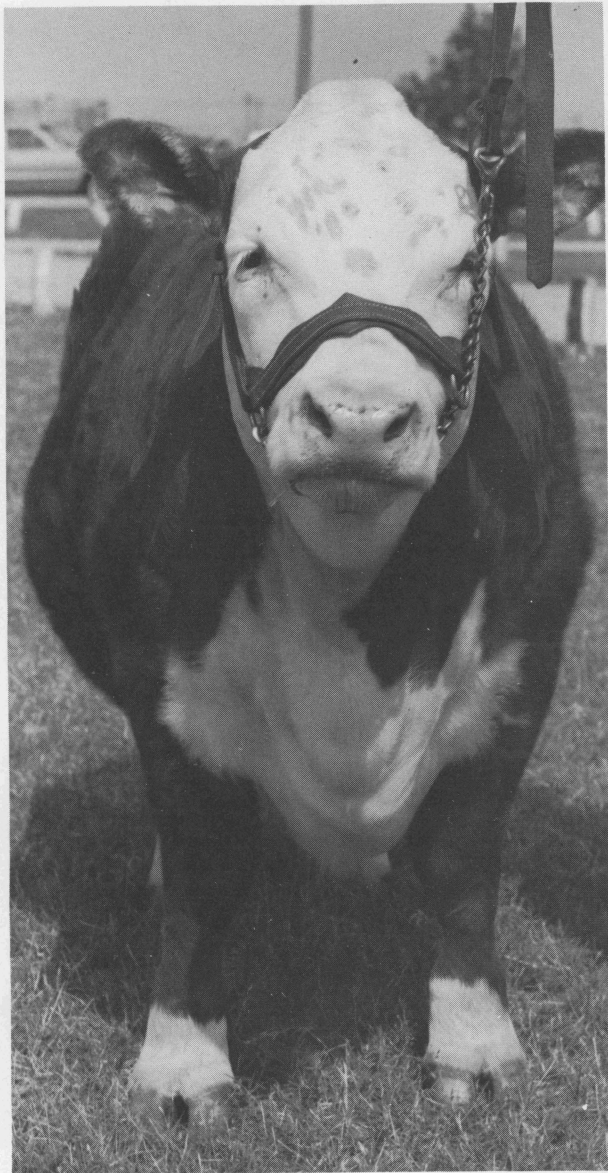
# BODY PARTS



# KNOWODY PARTS







*Front view steer No. 2.*

- *Left*—Lacks desired width between front legs.
- Lacks evidence of desired muscling in shoulder.
- Deep, heavy, full pendulous brisket.



- *Right*—Narrow, flat, tapering round.
- Lacks desired width between hind legs.
- Narrow back, loin and rump.

*Rear view steer No. 3.*

- *Right*—Too long of leg and shallow of body.
- Unbalanced appearance and light in hind-quarter.
- Short, drooping rump, narrow stifle, lacks muscling in arm and forearm.
- Lacks evidence of enough fullness of brisket, finish and muscling to grade Choice.



*Side view steer No. 3.*

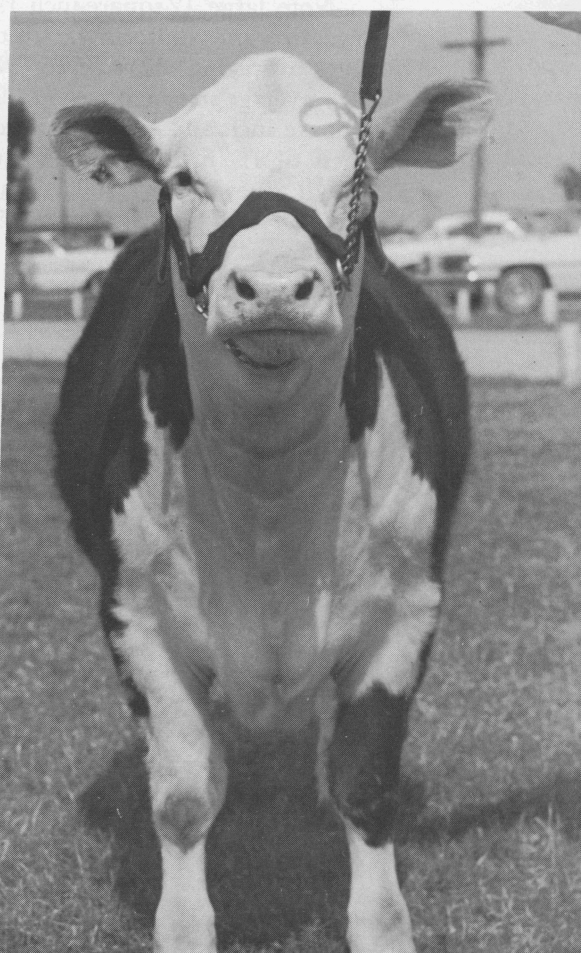
*Top view steer No. 3.*



- *Left* — Triangular shaped top; tapers from hooks to pins and hooks to shoulder.
- Narrow at pins.
- Rough, prominent, high tailhead.

- *Right*—Very narrow between front legs.
- Lacks muscular development of shoulder.
- Long, light bone.

*Front view steer No. 3.*





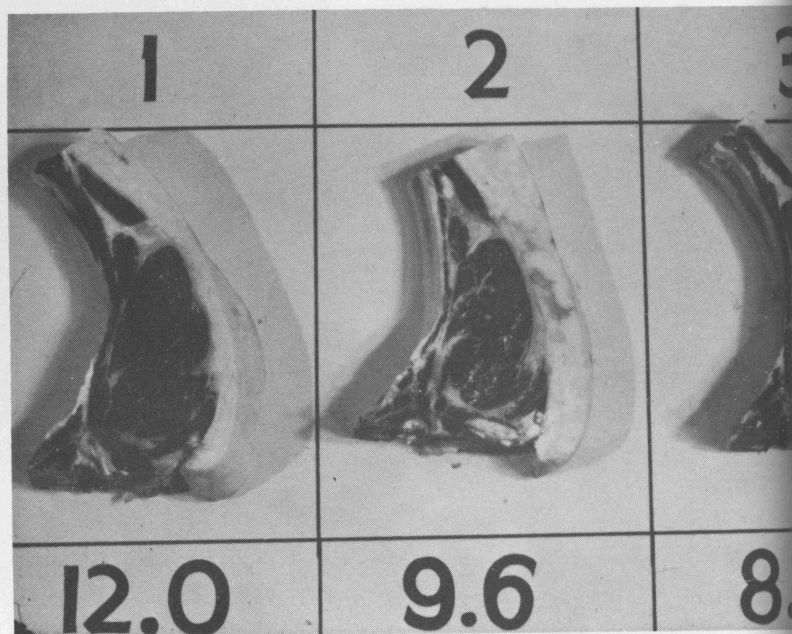


Left—View of right intact sides of carcasses from steers observed alive. Fat trimmed from left side is displayed beneath its corresponding side.

No. 1 Very thick, muscular carcass with USDA Prime conformation and a uniform but not excessive covering of fat—13.5 percent fat trim.

No. 2 Overfinished carcass with USDA Choice conformation—20.3 percent fat trim.

No. 3 Lacks conformation and evidences of quality to grade above USDA Good—11.4 percent fat trim.




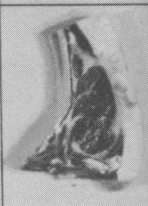
Untrimmed rib steaks from left side of carcasses from steers 1, 2 and 3, showing ribeye area and fat thickness.

Note large 12-square-inch ribeye size and uniform fat thickness averaging .75 inch for No. 1; average-size ribeye of 9.6 square inch and excess fat thickness of 1.3 inch for No. 2; and small ribeye of 8.7 square inch and fat thickness of .45 inch for No. 3.

	1	Steers 2	3
Ribeye area sq. in.	12.0	9.6	8.7
Fat thickness, in.	.75	1.3	.45
USDA quality grade	Choice	Choice	Choice
Boneless trim- med roast, steak cuts, % carcass	51.0	45.8	49.9
*Carcass value per cwt. based on cutout and grade	\$39.50	\$36.35	\$36.75

\*May, 1963 price.

Important carcass information.

STEER NUMBER	1	2
UNTRIMMED RIB STEAK		
RIBEYE AREA	12.0	9.6
FAT THICKNESS	.75	1.3
U.S.D.A. QUALITY GRADE	CHOICE	CHOICE
BONELESS CLOSELY TRIMMED ROAST & STEAK CUTS % CARCASS	51.0	45.8
CARCASS VALUE PER CWT. BASED ON CUTOUT & GRADE	\$39.50	\$36.35

## Carcass Evaluation Terms

**Ribeye area.** This is an easily obtained measure of carcass muscling. The Ultrasonic machine estimation of ribeye on live cattle constantly is being made more accurate. Although ribeye area is associated with only about 20 percent of the variations in carcass muscling, the measure is a fair indicator of desirable muscling if actual cut-out data is not obtainable. Note size of the three ribeyes.

**Fat thickness.** Fat thickness over the ribeye at the twelfth rib is a good indication of overall carcass fatness. One inch thickness is the maximum amount acceptable on Choice and Prime grade cattle. A range of .6 inch to .8 inch fat thickness is considered correct fat cover, if given as an average of three measurements. Frequently, fat thickness is given as one measurement, taken about three-fourths of the distance toward the lower side of the muscle. This is the measurement used for the USDA Dual Grading system. The one measurement expresses fat thickness about .2 inch less than the average of three measurements. One-half inch is usually adequate fat cover to protect the carcass from drying out and make the meat palatable. However, few carcasses from approximately 1000-pound cattle with no more external fat than this have more than a "small" amount of marbling—many have less than a "small" amount.

**USDA quality grade.** This is based on degree of marbling, color, texture and firmness of meat and maturity or age indications. Grade usually is associated with the meat's eating quality. Higher grades tend to assure more juicy, tender, tasty beef than lower grades.

*Steer side views.*



*Boneless trimmed roast and steak cuts, percent of carcass.* The loin, rib, round, rump and chuck are the muscular wholesale cuts which yield roast and steak retail cuts. They represent the high-priced, preferred cuts of beef and about 80 percent of carcass total value. Fatness is the most important factor affecting carcass yield of retail cuts. Forty-eight percent, or higher, cut-out of boneless, closely trimmed cuts, based on chilled carcass weight, for Choice and Prime grade is considered desirable. Note that Steer No. 1 exceeded this amount by 3 percent and Steer No. 2 fell below this standard. Steer No. 3 outcut No. 2 because of about half as much fat trim.

*Carcass value per hundred weight based on cut-out and grade.* This value is based on May 1963 boneless cut prices for roast and steak cuts for their respective grade and May 1963 retail prices for lean trim, fat trim and flank, plate and brisket. This was adjusted to total carcass value per hundred-weight of carcass. Steer No. 1 was the most valuable since it was in the Choice grade, had less fat trim than Steer No. 2 and was the most muscular carcass with highest cut-out. Steers No. 2 and 3 were similar in value since No. 2 had the advantage in grade and No. 3 the advantage in cut-out. Based on a 600-pound carcass with the spread in values of \$3.15 per hundredweight and \$2.75 per hundredweight between 1 and 2, and 1 and 3, respectively, No. 1's carcass would be valued at \$18.90 more than No. 2's and \$16.50 more than No. 3's.

### SIDE VIEW

Steer No. 1	Steer No. 2	Steer No. 3
Muscular- correctly finished	Average muscling overfinished	Poorly muscled underfinished
Moderate in length and depth of body and length of leg	Excessive depth of body, too short legged and short bodied	Too long of leg and shallow of body
Balanced appearance	Unbalanced-heavy fronted	Unbalanced-light hindquarter
Long full rump and round, long from hooks to hock and from pins to stifle	Short rump and round	Short drooping rump, narrow stifle
Muscular arm and forearm	Average muscling in shoulder	Lacks muscling in shoulder
Trim brisket, rear flank and cod	Heavy, wasty brisket, rear flank and cod	Lacks finish to grade Choice
Trim middle	Heavy, wasty middle	Intermediate in trimness of middle



### *Front View*

#### **Steer No. 1**

Muscular—correctly finished

Wide between front legs

Muscular yet not coarse or open in shoulder

Heavy yet not coarse bone development  
(front cannons)

Trim brisket, enough fullness to indicate adequate finish for quality meat and Choice grade

#### **Steer No. 2**

Average muscling—overfinished

Lacks desired width between front legs

Intermediate in width, muscling of shoulder

Average bone development

Excessive heavy, deep full pendulous brisket  
yield excessive fat trim.

#### **Steer No. 3**

Poorly muscled—underfinished

Very narrow between front legs

Lacks muscular development of shoulder

Long, light bone development

Lacks enough fullness of brisket to grade  
above USDA Good



*Steer front views.*

### *Rear View*

#### **Steer No. 1**

Muscular—correctly finished

Thick, plump round with maximum width  
half way between tailhead and twist

Wide at pins and long from pins to twist  
Stands and walks wide on hind legs

Uniformly, wide thick back, loin and rump  
with correct turn (⤿) over the top—  
quonset shaped.

#### **Steer No. 2**

Average muscling—overfinished

Wide at rump, but tapers in width from top  
to bottom of round

Lacks length of round

Lacks desired width between hind legs

Wide, but flat, square cornered (▢) top  
indicating excessive fat over crops along  
loin edges and over rump

#### **Steer No. 3**

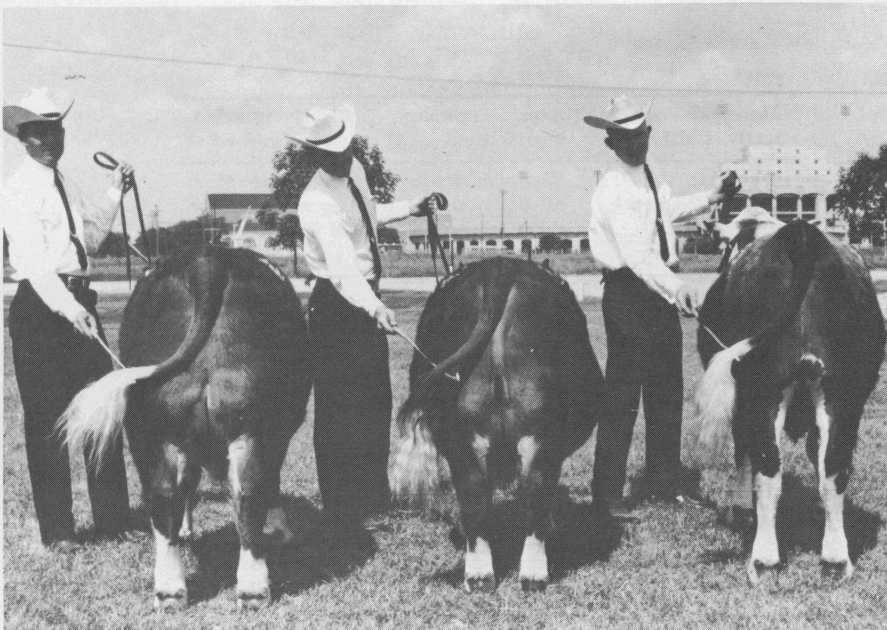
Poorly muscled—underfinished

Narrow, flat tapering round

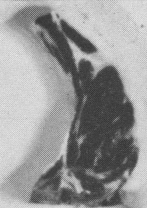


Narrow at pins, cut up in twist

Narrow on hind legs

Narrow triangular (▲) shaped top, prominent  
tailhead and hooks



*Steer rear views.*

STEER NUMBER	1	2	3
UNTRIMMED RIB STEAK			
RIBEYE AREA	12.0	9.6	8.7
FAT THICKNESS	.75	1.3	.45
U.S.D.A. QUALITY GRADE	CHOICE	CHOICE	GOOD
BONELESS CLOSELY TRIMMED ROAST & STEAK CUTS % CARCASS	51.0	45.8	49.9
LIVE VALUE PER CWT. BASED ON CUTOFF & GRADE	\$25.72	\$23.06	\$22.23

*Untrimmed rib steaks and important carcass information.*

Note the live values per hundredweight. This was computed by multiplying dressing percentage by carcass value per hundredweight. This points out the importance of dressing percentage in determining live values. The dressing percentages were:

No. 1 — 65.1 percent

No. 2 — 63.5 percent

No. 3 — 60.5 percent

*Since carcass traits are heritable, producers need to be aware of the relative carcass merit of their cattle. This information can be obtained at a nominal fee from the Meat Grading Branch of the Agricultural Marketing Service's Livestock Division. Texas producers should contact, USDA Agricultural Marketing Service, 231 Livestock Exchange Building, Fort Worth 6, Texas. Your county agricultural agent has the necessary application forms and can assist you in obtaining and interpreting carcass information on your cattle.*





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